

# DEUSOP11 - Vehicle Forensics

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## 1. Scope

- 1.1. This standard operating procedure is utilized during the pre-processing, acquisition, and examination of vehicles.

## 2. Background

- 2.1. To establish the practices for documenting the examination of evidence to conform to the requirements of the Department of Forensic Sciences (DFS) Digital Evidence Unit *Quality Assurance Manual*, the accreditation standards under ISO/IEC 17025:2017, and any supplemental standards.

## 3. Safety

- 3.1. If necessary due to the condition of the evidence, wear personal protective equipment (e.g., lab coat, gloves, mask, eye protection), when carrying out standard operating procedures.
- 3.2. As some acquisitions may be conducted in the DFS Garage or vehicle location, any safety guidelines applicable to the garage should be followed.

## 4. Materials Required

- 4.1. Computer with internet access and vehicle forensic software installed, software dongle(s), connection cables and adapters, tools, storage media.

## 5. Standards and Controls

5.1. Not applicable.

## 6. Calibration

6.1. Not applicable.

## 7. Procedures

7.1. Determine if vehicle is supported by forensic software using the Vehicle Identification Number (VIN) or the Make/Model/Year/Trim. Visual inspection of the vehicle may also be necessary to confirm software support.

7.2. If the vehicle is supported, follow the instructions as guided by the software for removal of/connection to pertinent systems in the vehicle. The following should be considered/included when preparing to extract data from the vehicle, per software instructions:

7.2.1. Turn off the vehicle and exit with all key fobs

7.2.2. Close all doors.

7.2.3. Open the driver's side door for 5 seconds.

7.2.4. Close the driver's side door and wait approximately 2 minutes.

7.2.5. Disconnect vehicle power (e.g. disconnect battery or place the vehicle into transport mode).

7.2.6. To verify that the vehicle was completely shut down, ensure the center stack of the vehicle, as well as the instrument cluster and interior/exterior lights have been off for 30-45 seconds after all doors were closed. Wait 60 seconds after all of the components have shut down before removing power to any of the electronic control units (ECUs).

7.3. Continue following the instructions provided by the software until data is ready to be extracted.

7.4. Save the data in the appropriate folder on the forensic computer or storage media for analysis by software.

7.5. Once acquisition has finished, open acquisition in vehicle forensic software. Export data to the appropriate report format based on the acquisition type and data extracted.

- 7.6. Create a hash value for the files/folder where acquisition is saved and store in a separate file, or document on DEUF03 – Vehicle Acquisition. Some acquisition types may not produce a hash value.
- 7.7. Create two copies of the original evidence: a best evidence and a working copy. Create a best evidence copy on appropriate storage media. Enter the item into LIMS and mark with appropriate DFS number for storage in DEU evidence. Create working copy and store the image on DEUNet. The image should be saved in the correct case folder. Within the case folder, the image should be saved in the “Evidence” folder, inside a folder that has the same name as evidence identification (e.g., Item 0006/Item 0006.E01).
- 7.8. Verify the hash value of the acquisitions for the best evidence and working copies.

## **8. Sampling**

- 8.1. Not applicable.

## **9. Calculations**

- 9.1. Not applicable.

## **10. Uncertainty of Measurement**

- 10.1. Not applicable.

## **11. Limitations**

- 11.1. This standard operating procedure is limited by the vehicles supported by the forensic software.

## **12. Documentation**

- 12.1. DEUF03 – Vehicle Acquisition

## **13. References**

- 13.1. Digital Evidence Unit Quality Assurance Manual (Current Version).
- 13.2. DFS Departmental Operations Manuals (Current Versions).

- 13.3. Forensic Science Laboratory (FSL) Laboratory Operations Manuals (Current Versions).
- 13.4. Digital Evidence Unit Laboratory Operations Manuals (Current Versions).
- 13.5. SWGDE Best Practices for Vehicle Infotainment and Telematics Systems (v1.0 2016 June 23).